for the aggregate amount of water that will be in the reservoirs in the whole year.

The undersigned have estimated that 54 1-3 square miles of country will furnish this amount.

Now, if we take ten acres of reservoir for each square mile drained, we shall have in all 543 1-3 acres of reservoir—a small extent of surface compared with what is found necessary elsewhere where the sole reliance is upon reservoirs.*

A smaller proportional extent of surface they are satisfied cannot be found to answer the intended purposes on Parr's ridge; and this cannot be obtained even if the drainage were ample.

These reservoirs ought to be of a size sufficient to hold at least one half of the whole annual amount of water required; that is, their contents should be $\left\{\frac{1{,}520{,}000{,}000}{2} = \right\}$ 760,000,000 cubic feet:—now in 543 1-3 the total number of acres in the reservoirs there are 23,667,6000 square feet; the average depth of the reservoirs when filled, will be $\left\{\frac{760{,}000{,}000}{23{,}667{,}600} = \right\}$ 32 1-10 feet, now the loss of one quarter of this in six months will be equivalent to 192 6-10 inches in the year, or to $\left\{\frac{192\ 6\text{-}10}{365} = \right\}$ $\frac{53}{100}$ of an inch per day over the whole surface of the reservoirs.

The evaporation, absorption, leakage, &c., upon the Erie canal has sometimes been taken at 100 cubic feet per minute. We will take it at only 75 cubic feet; this is a little more than 6 inches per day over the whole surface of the canal. On the Chesapeake and Chio canal the same are found to be a little more than 3 1-2 inches. These it is granted are cases that cannot fairly be brought into comparison with reservoirs; for the canals are shallow in depth comparatively, and have in consequence 7 or 8 times, the surface exposed to absorption, filtration, and

*On the Morris canal, there are upwards of 2,400 acres. On the Chenango canal there are 1,315 acres.